		NTSB ID: SEA06FA126		Aircraft Registration Number: N768H	
		Occurrence Date: 06/24/2006		Most Critical Injury: Fatal	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Big Timber	State MT	Zip Code 59011	Local Time 1420	Time Zone MDT	
Airport Proximity: Off Airport/Airstrip		Distance From Landing Facility:			
Aircraft Information Summary					
Aircraft Manufacturer Pilatus		Model/Series PC-12/47		Type of Aircraft Airplane	
Revenue Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
<p>Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:</p> <p>HISTORY OF FLIGHT</p> <p>On June 24, 2006, at 1420 mountain daylight time, a Pilatus PC-12/47, N768H, was destroyed when it impacted terrain following a loss of aircraft control after takeoff from Big Timber Airport (6S0; elevation 4,492 feet), Big Timber, Montana. The airline transport pilot/flight instructor and private pilot receiving instruction were fatally injured. The private pilot/owner was operating the airplane under Title 14 CFR Part 91. Visual meteorological conditions prevailed for the local, instructional flight which was originating at the time of the accident. A flight plan had not been filed.</p> <p>On the morning of the accident, the private pilot departed Big Timber, Montana, at an undetermined time. According to Billings, Montana, Air Traffic Control (ATC), the airplane landed at Billings at 0929. A witness at the Billings terminal observed the flight instructor and private pilot together at a table talking "for some time." At 1135, Billings' ATC cleared the airplane for takeoff, and the first radar contact was recorded at 1137. Billings' ATC reported that the airplane stayed in the traffic pattern for about 30 minutes before it headed north towards Lavina, Montana (elevation 3,490 feet). At approximately 1217, the airplane was observed, on radar, to make a "very rapid descent" towards the runway at Lavina, from approximately 12,000 feet. (Another PC-12 flight instructor said this event matched the profile of a practice emergency descent training, for example, cabin depressurization). ATC reported that radar contact was lost for approximately 3 minutes; when radar contact was reacquired, the aircraft was approximately 4 nautical miles (nm) west of the Lavina airport. ATC said that the aircraft continued southwest (towards Big Timber), and their last radar contact was at 1226.</p> <p>Airport personnel at Big Timber reported "topping" the fuel tanks of the accident airplane with 173 gallons of Jet A fuel. The private pilot told ramp personnel at Big Timber that he was preparing to fly to Paine Field, Everett, Washington, with his family and his flight instructor. At approximately 1415, three witnesses flying over Big Timber heard the transmission, from the accident airplane on Common Traffic Advisory Frequency (CTAF), that they planned to do an engine failure on take-off with a planned 180 degree turn back to the field. Two of the witnesses watched the airplane depart on runway 06.</p> <p>Another witness, driving north in the valley below the airport, said: "The aircraft began to increase its climb and simultaneously bank hard to the right with the nose up approximately 30 degrees while in the turn. The turn appeared to be uncoordinated, and the aircraft rolled to the right, as [the] right wing dipped aggressively. Most of the wing surface could be seen from my position. The nose of the aircraft yawed down to nearly -45 degrees, and while losing altitude the aircraft began to roll level but was still pitched down at a steep angle and accelerating."</p> <p>The witness said "the aircraft seemed to be recovering, but the elevation of the adjacent ridge was</p>					
<div>FACTUAL REPORT - AVIATION</div> <div>Page 1</div>					

National Transportation Safety Board

FACTUAL REPORT**AVIATION**

NTSB ID: SEA06FA126

Occurrence Date: 06/24/2006

Occurrence Type: Accident

Narrative (Continued)

rising rapidly in relation to the aircraft's direction. At the last few seconds, the aircraft was able to pitch up in what appeared to be a landing flare." He said that he saw dirt and grass flying up behind the aircraft just prior to the airplane's right wing tip and engine impacting terrain. Post impact fire consumed the airplane.

PERSONNEL INFORMATION

The flight instructor's most recent Federal Aviation Administration (FAA) flight medical exam (first class) was on August 8, 2005, and at that time he reported on his application that he had 3,200 hours of flight experience. He had previously been employed as a pilot for Pilatus Aircraft LTD, and he was currently assigned to the 931st Air Refueling Group, Air Force Reserve Command, McConnell Air Force Base, Kansas.

The private pilot receiving instruction reported on an insurance application for the accident airplane, dated June 10, 2006, that he had 725 hours of total flight experience and 140 hours in make and model. His last FAA flight medical was a third class, and it was performed on June 2, 2005. The private pilot owned and flew a Beechcraft Bonanza B36TC for three years, before he purchased the accident airplane in June 2006. He had successfully completed a Pilatus PC-12 Initial training with SimCom Training Centers, Scottsdale, Arizona, on July 3, 2004.

The private pilot had successfully taken a FAA mandated flight review, with another flight instructor, on March 20, 2006. That flight instructor said that the private pilot had requested flight training for his commercial certificate in his Bonanza; they flew 10 training flights from March 2006 thru May 2006. He said "the training was progressing smoothly." He said that he found the private pilot "to be a very careful and proficient pilot--he was always well prepared for each lesson." The flight instructor said this training included about 10 to 12 "power-off 180 degree accuracy approach and landing maneuvers from 1,000 feet AGL [above ground level]."


AIRCRAFT INFORMATION

The airplane was a pressurized, single engine, propeller-driven, eight seat airplane, which was manufactured by Pilatus Aircraft Ltd., in May 2006. The airplane had a maximum takeoff gross weight of 10,450 pounds. It was powered by a Pratt & Whitney Canada PT6A-67B, turbo shaft engine, which had a maximum takeoff rating of 1,200 horsepower. The airplane had approximately 41 hours of flight time at the time of the accident. The aircraft's maximum fuel capacity was 406 gallons; the engine's maximum takeoff fuel consumption rate was approximately 88 gallons per hour and high cruise fuel consumption rate was approximately 56 gallons per hour.

The airplane's Pilot Owner's Handbook states the following: that the normal takeoff in the airplane is accomplished with 15 degrees of flaps, rotates at 81 knots, and climbs out at best angle (Vx) of 110 knots or best rate (Vy) of 120 knots. Takeoff flaps take 17 to 20 seconds to retract; this reduces dramatic pitch changes during climb out. The airplane's wing level stall speed (defined by pusher activation) changes during a 15 degree flap retraction from 76 knots to 91 knots. If the airplane is banked 45 degrees, with flaps up, the stall speed increases approximately 19 knots, to 110 Knots indicated.

The accident airplane was the improved PC-12, or the PC-12/47. According to the manufacturer, one of the changes made were the addition of aileron tabs, which reduced the control forces required to manipulate the ailerons. The private pilot had flown the airplane from Paine Field, Everett, Washington, on June 20, 2006, to Big Timber, Montana. He had family and another flight instructor onboard. That flight instructor said of the airplane, "it flew extremely well."

An aircraft manufacture's representative computed a weight and balance for the accident airplane at the time of the accident. He used the delivery documentation, full fuel minus 50 pounds for initial operations, 50 pounds for various personal and cargo items, and the 2 pilots (their weights

 National Transportation Safety Board FACTUAL REPORT AVIATION	NTSB ID: SEA06FA126
	Occurrence Date: 06/24/2006
	Occurrence Type: Accident

Narrative (Continued)

were retrieved from their FAA medical data). The airplane was determined to be approximately one inch forward of its center of gravity limitation.

METEOROLOGICAL INFORMATION

At 1353, the weather conditions at Mission Field, Livingston, Montana (elevation 4,660 feet), 230 degrees for 20 nautical miles (nm) from the accident site, were as follows: wind 060 degrees at 17 knots, gusting to 23 knots; visibility 10 statute miles; cloud conditions clear; temperature 73 degrees Fahrenheit; dew point 43 degrees Fahrenheit; altimeter setting 30.41 inches.

AIRPORT INFORMATION

The Big Timber Airport, Big Timber, Montana, is not serviced by a control tower. The airport has two runways: 06-24 which is 5,287 feet long and 75 feet wide; 18-36 which is 4,000 feet long and 100 feet wide. Runway 06, the runway used by the accident aircraft, is asphalt, in good condition. The airport is serviced by a CTAF of 122.8 MHz.

WRECKAGE AND IMPACT INFORMATION

The airplane was found (N45 degrees, 48 minutes, 28 seconds; W109 degrees, 55 minutes, 54 seconds; elevation 4,309 feet) in an open field with rising terrain. The longitudinal orientation of the ground scar leading to the main wreckage was 205 degrees magnetic; it extended for approximately 1,200 feet. All of the airplane's major components were accounted for at the accident site.


The point of initial impact (POII) was with a 10 inch in diameter rock which had been dislodged from the ground. Next to it was a single lightning diverter strip, from the right wing tip radome.


Approximately 5 to 10 feet further, a triple wire fence was impacted. One of the fence's steel t-posts was laying on the ground, and it had been deformed to match the profile of a wing leading edge; no wires were attached to it. At POII plus 35 feet, a piece of the right wing's flap support arm was found, and 20 feet further was the right wing's pitot tube mast. At POII plus 77 feet, a 3 foot piece of the right outboard wing tip was located, which had been cleanly separated from the wing. This piece of wreckage included the radome housing, with a matching length of right aileron and servo tab.


On rising terrain, at 205 feet from POII, were 3 distinct swaths of cut/sheared grass, 10 to 45 feet in length, with multiple shallow ground scars aligned with the accident site. At POII plus 511 to 531 feet, several propeller slashes were identified, one of which contained yellow paint matching the propeller blade's tips. At approximately 25 feet and narrowing to 8 feet to the right of the propeller slashes, starting approximately 20 feet before the propeller slashes, was a 30 foot long ground scar. This was where the charred-ground initiated, and continued for approximately 600 feet to the remains of the fuselage. The first piece of the main spar was found at POII plus 546 feet.


The physical evidence at the accident site revealed that the airplane's right wing impacted a fence post approximately 10 inches above the ground, and approximately 120 feet of fence continued with the airplane. There were pieces/sections of wire fencing throughout the debris field and in the main fuselage burned wreckage.

Due to the airplane's impact and thermal damage, flight control continuity could not be confirmed. Most of the cockpit instrumentation, and flight and power controls were damaged beyond documentation. All four flap jackscrew actuators were confirmed to be in the fully retracted position. On June 27, 2006, at Belgrade, Montana, the engine was examined externally, and disassembled for internal examination. Additionally, the fuel control unit (FCU) and fuel pump were sent to Pratt & Whitney Canada for testing and disassembly, which took place on August 1, 2006. Subsequently, on September 22, 2006, Woodward Governor Company, Rockford, Illinois, tested

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: SEA06FA126	
	Occurrence Date: 06/24/2006	
	Occurrence Type: Accident	
Narrative (Continued)		
<p>and documented the FCU's Bellows assembly and CDP (compressor discharge pressure) rod guide assembly. No preimpact engine or airframe anomalies, which might have affected the airplane's performance, were identified.</p> <p>MEDICAL AND PATHOLOGICAL INFORMATION</p> <p>The Sweet Grass Coroner, from Big Timber, Montana, ordered autopsies to be performed on both pilots. They were completed on June 26, 2006, by Forensic Medicine and Pathology, PLLC, Billings, Montana.</p> <p>The FAA's Civil Aeromedical Institute (CAMI) in Oklahoma City, Oklahoma, performed toxicology tests on both pilots with negative results.</p> <p>ADDITIONAL INFORMATION</p> <p>The aircraft wreckage was released to a representative of the owner's insurance company on November 6, 2006.</p>		
FACTUAL REPORT - AVIATION		Page 1c

 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: SEA06FA126			
		Occurrence Date: 06/24/2006			
		Occurrence Type: Accident			
Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation Ft. MSL	Runway Used NA	Runway Length	Runway Width
Runway Surface Type:					
Runway Surface Condition:					
Approach/Arrival Flown: NONE					
VFR Approach/Landing: None					
Aircraft Information					
Aircraft Manufacturer Pilatus		Model/Series PC-12/47		Serial Number 716	
Airworthiness Certificate(s): Normal					
Landing Gear Type: Retractable - Tricycle					
Amateur Built Acft? No	Number of Seats: 8	Certified Max Gross Wt.	10450 LBS	Number of Engines: 1	
Engine Type: Turbo Prop	Engine Manufacturer: Pratt & Whitney	Model/Series: PT6A-67B	Rated Power: 1200 HP		
- Aircraft Inspection Information					
Type of Last Inspection Annual	Date of Last Inspection 06/2006	Time Since Last Inspection Hours	Airframe Total Time 41 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed?/Type Yes /	ELT Operated? No	ELT Aided in Locating Accident Site? No			
Owner/Operator Information					
Registered Aircraft Owner Jeffery M. Harbers		Street Address			
		City Medina	State WA	Zip Code 98039	
Operator of Aircraft Jeffery M. Harbers		Street Address			
		City Medina	State WA	Zip Code 98039	
Operator Does Business As: JMH Capital LLC			Operator Designator Code:		
- Type of U.S. Certificate(s) Held: None					
Air Carrier Operating Certificate(s):					
Operating Certificate:			Operator Certificate:		
Regulation Flight Conducted Under: Part 91: General Aviation					
Type of Flight Operation Conducted: Instructional					
<div style="display: flex; justify-content: space-between;"> FACTUAL REPORT - AVIATION Page 2 </div>					

 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: SEA06FA126							
		Occurrence Date: 06/24/2006							
		Occurrence Type: Accident							
First Pilot Information									
Name		City		State	Date of Birth	Age			
On File		On File		On File	On File	31			
Sex: M	Seat Occupied: Right	Occupational Pilot?		Certificate Number: On File					
Certificate(s): Airline Transport; Flight Instructor; Commercial; Private									
Airplane Rating(s): Multi-engine Land; Single-engine Land; Single-engine Sea									
Rotorcraft/Glider/LTA: Glider									
Instrument Rating(s): Airplane									
Instructor Rating(s): Airplane Single-engine; Instrument Airplane									
Current Biennial Flight Review?									
Medical Cert.:		Medical Cert. Status:		Date of Last Medical Exam: 08/2006					
- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night	Instrument Actual Simulated	Rotorcraft	Glider	Lighter Than Air
Total Time	3200								
Pilot In Command(PIC)									
Instructor									
Instruction Received									
Last 90 Days									
Last 30 Days									
Last 24 Hours	1	1	1						
Seatbelt Used? Yes		Shoulder Harness Used? Yes		Toxicology Performed? Yes		Second Pilot? Yes			
Flight Plan/Itinerary									
Type of Flight Plan Filed: None									
Departure Point		State		Airport Identifier		Departure Time		Time Zone	
Same as Accident/Incident Location				6SO		1422		MDT	
Destination		State		Airport Identifier					
Local Flight				6SO					
Type of Clearance: None									
Type of Airspace:									
Weather Information									
Source of Wx Information:									
Unknown									
<div>FACTUAL REPORT - AVIATION</div> <div>Page 3</div>									

 National Transportation Safety Board FACTUAL REPORT AVIATION			NTSB ID: SEA06FA126		
			Occurrence Date: 06/24/2006		
			Occurrence Type: Accident		

Weather Information					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
LVM	1353	MDT	4660 Ft. MSL	20 NM	230 Deg. Mag.
Sky/Lowest Cloud Condition: Clear				Ft. AGL	Condition of Light: Day
Lowest Ceiling: None			Ft. AGL	Visibility: 10 SM	Altimeter: 30.41 "Hg
Temperature: 23 °C		Dew Point: 6 °C	Weather Conditions at Accident Site: Visual Conditions		
Wind Direction: 60		Wind Speed: 17		Wind Gusts: 23	
Visibility (RVR): Ft.		Visibility (RVV) SM			
Precip and/or Obscuration: No Obscuration; No Precipitation					

Accident Information					
Aircraft Damage: Destroyed		Aircraft Fire: Ground		Aircraft Explosion: None	

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL	
First Pilot	1				1	
Second Pilot						
Student Pilot						
Flight Instructor	1				1	
Check Pilot						
Flight Engineer						
Cabin Attendants						
Other Crew						
Passengers						
- TOTAL ABOARD -	2				2	
Other Ground						
- GRAND TOTAL -	2				2	

--

FACTUAL REPORT - AVIATION	Page 4
---------------------------	--------



National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB ID: SEA06FA126

Occurrence Date: 06/24/2006

Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

James F. Struhsaker

Additional Persons Participating in This Accident/Incident Investigation:

Tim W Markle
FAA FSDO
Helena, MT